

WHAT IS CLAIMED IS:

1 1. In a data delivery system having a data server in data
2 communication with plural network devices, a method of changing a current network
3 device attribute of a target network device, said method comprising steps of:

4 transmitting first information from said data server to said target network
5 device, said first information comprising at least one new network device attribute;

6 storing said new network device attribute in said target network device;

7 transmitting second information from said data server to said target
8 network device; and

9 in response to receiving said second information, changing said current
10 network device attribute of said target network device in accordance with said new
11 network device attribute.

1 2. The method claim 1 wherein each network device attribute is a
2 QoS setting.

1 3. The method of claim 1 wherein said first information includes an
2 address of said target network device.

1 4. The method of claim 1 wherein said step of transmitting said
2 second information includes incorporating said second information in a data packet
3 destined for a client.

1 5. The method of claim 4 further including forwarding said data
2 packet by transmitting it from said target network device, wherein said step of changing
3 said current network device attribute is performed prior to said step of forwarding.

1 6. The method of claim 4 further including forwarding said data
2 packet by transmitting it from said target network device, wherein said step of changing
3 said current network device attribute is performed subsequent to said step of forwarding.

1 7. The method of claim 1 wherein said step of transmitting said
2 second information includes incorporating said second information in a data packet that is
3 not destined for a client.

1 8. The method of claim 1 wherein said step of transmitting said first
2 information includes incorporation said first information in a data packet destined for a
3 client.

1 9. The method of claim 1 wherein said step of transmitting said first
2 information includes incorporating said first information in a data packet that is not
3 destined for a client.

1 10. In a data delivery system having a data server in data
2 communication with plural network devices, a method of changing a quality of service
3 (QoS) of a target network devices, said method comprising steps of:

4 transmitting first information from said data server to said target network
5 device, said first information representing a new QoS and comprising at least one QoS
6 parameter;

7 storing said at least one QoS parameter in said target network device;

8 transmitting second information from said data server to said target
9 network device; and

10 in response to receiving said second information, changing said QoS of
11 said target network device in accordance with said stored QoS parameter, thereby putting
12 into effect said new QoS.

1 11. The method of claim 10 wherein said first information includes an
2 address of said target network device.

1 12. The method of claim 10 wherein said step of transmitting said
2 second information includes incorporating said second information in a data packet
3 destined for a client.

1 13. The method of claim 12 further including forwarding said data
2 packet by transmitting it from said target network device, wherein said step of changing
3 said QoS is performed prior to said step of forwarding.

1 14. The method of claim 12 further including forwarding said data
2 packet by transmitting it from said target network device, wherein said step of changing
3 said QoS is performed subsequent to said step of forwarding.

1 15. The method of claim 10 wherein said step of transmitting said
2 second information includes incorporating said second information in a data packet that is
3 not destined for a client.

1 16. The method of claim 10 wherein said step of transmitting said first
2 information includes incorporation said first information in a data packet destined for a
3 client.

1 17. The method of claim 10 wherein said step of transmitting said first
2 information includes incorporating said first information in a data packet that is not
3 destined for a client.

1 18. The method of claim 10 further including accumulating list of
2 plural entries in said target network device, each entry having at least one QoS parameter.

1 19. The method of claim 10 wherein said first information is a list of
2 plural entries, each entry having at least one QoS parameter.

1 20. The method of claim 19 wherein said second information includes
2 an index and said step of changing said QoS includes indexing into said list on the basis
3 of said index.

1 21. A data delivery system comprising:
2 a data server configured to transmit data packets to a network; and
3 at least one network device configured to receive data packets from said
4 network and to transmit data packets to said network,
5 said data server further configured to transmit first information to said
6 network device, said information representing a quality of service (QoS) setting of said
7 network device and comprising at least one QoS parameter,
8 said network device having a memory for storing said first information,
9 said data server further configured to transmit second information to said
10 network device,
11 said network device further configured to change its QoS setting in
12 accordance with said first information, in response to receiving said second information.

1 22. The system of claim 21 wherein said second information is
2 incorporated in a data packet destined for a client, said data packet being received by said
3 network device, said network device being further configured to forward said data packet
4 to said network.

1 23. The system of claim 22 wherein network device is further
2 configured to change said QoS prior to forwarding said data packet.

1 24. The system of claim 22 wherein network device is further
2 configured to change said QoS subsequent to forwarding said data packet.

1 25. The system of claim 21 wherein said second information is
2 incorporated in a data packet not destined for a client.

1 26. The system of claim 21 wherein said first information is
2 incorporated in a data packet destined for a client.

1 27. The system of claim 21 wherein said first information is
2 incorporated in a data packet not destined for a client.

1 28. The system of claim 21 wherein said memory is configured to
2 contain a list of plural QoS settings, each QoS setting having at least one QoS parameter.

1 29. The system of claim 21 wherein said first information is a list of
2 plural entries, each entry having at least one QoS parameter.

1 30. The system of claim 29 wherein said second information includes
2 an index value identifying an entry in said list, whereby said QoS of said network device
3 is changed in accordance with the QoS parameters corresponding to said identified entry.

1 31. In a network device, a method for setting a quality of service (QoS)
2 configuration comprising steps of:
3 acquiring at least one QoS parameter from an external source;
4 receiving data packets, first types of which are to be transmitted from said
5 network device and second types of which are to be retained within said network device;
6 for each received data packet, inspecting it for information of a first kind;
7 and

8 in response to detecting said information of a first kind, setting said QoS
9 configuration in accordance with said QoS parameter.

1 32. The method of claim 31 wherein said information of a first kind is
2 contained in a data packet of a first type, said step of setting said QoS configuration is
3 performed prior to transmitting said data packet.

1 33. The method of claim 31 wherein said information of a first kind is
2 contained in a data packet of a first type, said step of setting said QoS configuration is
3 performed subsequent to transmitting said first type of data packet.

1 34. The method of claim 31 wherein said information of a first kind is
2 contained in a data packet of a second type.

1 35. The method of claim 31 wherein said step of acquiring at least one
2 QoS parameter includes extracting said at least one QoS parameter from a received data
3 packet.

1 36. The method of claim 35 wherein said at least one QoS parameter is
2 contained in a data packet of a first type.

1 37. The method of claim 35 wherein said at least one QoS parameter is
2 contained in a data packet of a second type.

1 38. The method of claim 31 further including producing a list of plural
2 entries, each entry containing at least one QoS parameter, said list thereby defining a list
3 of QoS configurations.

1 39. The method of claim 31 wherein said step of acquiring at least one
2 QoS parameter includes receiving a list of QoS parameters, said list containing plural
3 entries, each entry containing at least one QoS parameter.

1 40. The method of claim 39 wherein said information of a first kind
2 includes index information and said step of setting includes indexing into said list based
3 on said index information.

1 41. A network device comprising:

2 network circuitry configured for connection to a network, said network
3 circuitry effective for receiving data packets from said network;
4 data monitoring circuitry in data communication with said network
5 circuitry and configured to detect the presence of a received data packet containing first
6 information;
7 control circuitry operatively coupled to said network circuitry and to said
8 data monitoring circuitry;
9 a memory in data communication with said control circuitry and
10 configured to contain service information including a current quality of service (QoS)
11 setting;
12 first program code to operate said control circuitry in a manner to receive
13 one or more externally provided QoS parameters; and
14 second program code to operate said control circuitry in a manner to alter
15 said service information in accordance with said QoS parameters in response to said data
16 communication circuitry detecting said received data packet containing said first
17 information, thereby changing said current QoS setting.

1 42. The device of claim 41 wherein said data monitoring circuitry is a
2 portion of said memory, said portion being configured to contain a third program to
3 operate said control circuitry in a manner to detect said first information in a received
4 data packet.

1 43. The device of claim 41 further including third program code to
2 operate said control circuitry in a manner to transmit said received data packets, said
3 second program code and said third program code configured so that said QoS is altered
4 prior to transmission of the received data packet containing said first information.

1 44. The device of claim 41 further including third program code to
2 operate said control circuitry in a manner to transmit said received data packets, said
3 second program code and said third program code configured so that said QoS is altered
4 subsequent to transmission of the received data packet containing said first information.

1 45. The device of claim 41 wherein said one or more QoS parameters
2 are contained in at least one of said received data packets.

1 46. The device of claim 41 wherein said received data packets include
2 first type data packets which are transmitted from said network device and second type
3 data packets which are retained in said network device, said first information being
4 contained in said second type data packets.

1 47. The device of claim 41 wherein said received data packets include
2 first type data packets which are transmitted from said network device and second type
3 data packets which are retained in said network device, said one or more QoS parameters
4 being contained in said second type data packets.

1 48. The device of claim 41 further including second memory
2 configured to contain a list of plural QoS settings, each QoS setting comprising at least
3 one QoS parameter.

1 49. The device of claim 41 wherein said first information is a list
2 containing plural entries of QoS parameters, each entry of QoS parameters representing a
3 different QoS setting.

1 50. The device of claim 49 wherein said first information includes
2 index information effective for specifying an entry in said list, said index information
3 thereby specifying one of said QoS settings.

1 51. In a data server configured for delivering data to a client over a
2 network having one or more network devices, a method of setting a quality of service
3 (QoS) comprising steps of:

4 communicating first information to at least one target network device, said
5 first information representing a QoS setting comprising one or more QoS parameters;
6 producing a first data packet containing second information; and
7 communicating said first data packet to said network device, wherein said
8 network device responds by setting its QoS setting in accordance with said first
9 information.

1 52. The method of claim 51 wherein said first information is a list of
2 plural entries, each entry having one or more QoS parameters representing a QoS setting.

1 53. The method of claim 52 wherein said second information includes
2 an index identifying one of said entries in said list, said second information thereby
3 specifying one of said QoS settings.

1 54. The method of claim 51 wherein said first data packet includes data
2 destined for a client.

1 55. The method of claim x5 wherein said first data packet includes data
2 destined only for said network device. 

1 56. The method of claim 51 wherein said first information is contained
2 in a second data packet having data destined for a client.

1 57. The method of claim 51 wherein said first information is contained
2 in a second data packet destined only for said network device.